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GAO/NSA-92-100  
Budgeting Report to the Chairman,  
Subcommittees on Defense, Senate and  
House Committees on Appropriations

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1992 NAVY BUDGET  
Potential Reduction in  
Shipbuilding and  
Conversion Program



91-13611



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National Security and  
International Affairs Division

B-245597

September 27, 1991

The Honorable Daniel K. Inouye  
Chairman, Subcommittee on Defense  
Committee on Appropriations  
United States Senate

The Honorable John P. Murtha  
Chairman, Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

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In anticipation of your Subcommittees' deliberations of the Defense Appropriations Act of 1992, we reviewed the Navy's funding request for Shipbuilding and Conversion programs, including those requested for the AOE-6 class fast combat support ship program. Our objectives were to (1) review the Navy's shipbuilding and conversion budget account for fiscal year 1992 for selected ship programs to determine whether the funding levels requested were justified and (2) examine selected aspects of the current and prior year budgets to determine whether unused funds could be reduced. We provided the preliminary results of our review to your offices. The results of our final review are summarized below and discussed in more detail in appendix I.

We identified a potential reduction of \$523.5 million in the AOE-6 class fast combat support ship program for fiscal year 1992. This potential reduction results from delaying, except for procurement of long lead material, construction of one ship until design and construction problems affecting other ships in the program are resolved. We found no potential rescissions in current and prior year appropriations.

## Scope and Methodology

This review is one of a series that examines defense budget issues. Our reviews of SSN-21 submarine and DDG-51 class destroyer construction programs, shipbuilding contract cost growth, and sealift, which also address shipbuilding funding issues, will be reported on separately.

In conducting our review we interviewed budget and program officials and reviewed pertinent program documents and budget support data obtained from Defense and Navy headquarters. Our work was performed at Navy headquarters in Washington, D.C., and at the Office of the Supervisor, Shipbuilding, Conversion, and Repair, San Diego, CA. ↙ California.

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We conducted our review from February 1991 to September 1991 in accordance with generally accepted government auditing standards.

We did not obtain written agency comments on this report. However, we discussed the contents with officials from the Office of the Secretary of Defense and the Department of the Navy and incorporated their comments as appropriate.

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Copies of this report are being sent to the Secretaries of Defense and the Navy; the Director, Office of Management and Budget; and other interested parties.

This report was prepared under the direction of Martin M Ferber, Director, Navy Issues, who may be reached on (202) 275-6504 if you or your staff have any questions. Other major contributors are listed in appendix II.



Frank C. Conahan  
Assistant Comptroller General



# Potential Reduction in Navy Shipbuilding and Conversion Program

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We identified \$523.5 million to be considered for reduction from the Navy's fiscal year 1992 budget request for the AOE-6 class fast combat support ship program.

## AOE-6 Class Fast Combat Support Ship

The AOE-6 class fast combat support ships are designed to operate as part of carrier battle groups, resupplying other ships in the battle groups with petroleum products, ammunition, and other supplies and delivering mail. As such, they are designed and constructed to combatant standards. The Congress appropriated the funds for one ship in each of the fiscal years 1987, 1989, 1990, and 1991.

In January 1987, the Navy awarded National Steel and Shipbuilding Company (NASSCO), San Diego, California, a contract for the design and construction of AOE-6, the first ship of the class, to be delivered in April 1991. The contract contained options for three additional ships, AOE-7 through AOE-9. The Navy exercised the contract options for AOE-7 and AOE-8 in November 1988 and December 1989, respectively, for delivery in July 1992 (AOE-7) and in August 1993 (AOE-8). Even though the Navy requested and the Congress appropriated \$398.2 million in fiscal year 1991 for the fourth ship, it did not exercise the option (which expired in March 1991) for that ship. Instead, the Navy requested in its fiscal year 1992 budget submission that the fiscal year 1991 funds be transferred to other ship construction programs to make up funding shortfalls. It also requested \$540.1 million in fiscal year 1992 funds for the fourth ship, now the final ship in the program, which it plans to build under a separate contract.

## Results of Analysis

Of the requested \$540.1 million for fiscal year 1992 for construction of a fourth ship, \$523.5 million could be deferred. The remainder—about \$16.6 million—is needed to procure the reversing reduction gears as long lead material. Continuing problems with the delivery of the reversing reduction gears, a key component of the propulsion system, and other problems associated with constructing the first three ships have increased the cost estimates to complete AOE-6, -7, and -8 and have created considerable risk that the fourth ship can be completed as scheduled if fully funded in fiscal year 1992. The Navy's current plan for construction of the fourth ship, if funding is approved, is to (1) release the request for proposals in November 1991, (2) award the contract in May 1992, (3) start construction in May 1993, and (4) take delivery in February 1997.

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**Appendix I**  
**Potential Reduction in Navy Shipbuilding and**  
**Conversion Program**

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However, design and construction problems have delayed the construction of the three ships now under contract. Table I.1 shows the ships' original and currently scheduled delivery dates.

**Table I.1: Delay in Delivery of AOE-6 Class Ships**

<b>Ship</b>	<b>Original delivery date</b>	<b>Current delivery date</b>	<b>Delay (months)</b>
AOE-6	Apr. 1991	Feb. 1993	22
AOE-7	July 1992	Aug. 1993	13
AOE-8	Aug. 1993	June 1994	10

The problems causing these delays could affect the Navy's ability to meet its schedule for the fourth ship. Design problems delayed the construction of AOE-6. In addition, during this past summer, the Navy identified a potential design problem affecting the structural strength of the first three ships' hulls. However, it has not yet determined what work may be required to correct the problem. Moreover, since NASSCO is a potential bidder for the fourth ship, additional delays in completing the first three ships could delay completion of the fourth ship if it is awarded the contract.

Cincinnati Gear Company has encountered significant problems with its manufacture of the reversing reduction gears. The AOE-6 design is the first U.S. Navy ship class to use that type of reduction gears, a type that has not previously been designed or manufactured in the United States. The gear problems have included both the adequacy of the initial design and the contractor's ability to manufacture the gears.

Because of these problems, none of the gear sets have been delivered. The set for AOE-6, which was originally scheduled for delivery in April 1989, is currently undergoing testing at the factory and is now scheduled for delivery in December 1991. Manufacture of the sets for AOE-7 and AOE-8 has been correspondingly delayed since the sets are assembled sequentially, and those sets are now scheduled for delivery in August 1992 and April 1993, respectively. The delays in the delivery of the gears have reduced the economies anticipated from building the ships using a modular construction technique that relies heavily on a predetermined, sequential assembly of the vessel. Significant portions of AOE-6 and AOE-7 could not be completed as scheduled in order to allow access to the lower portions of the ships where the gears must be installed. As a result, the cost of the ships' construction has increased. Construction costs of AOE-8 will be similarly affected.

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Even though the Navy plans to build the fourth ship under a new contract, construction could be similarly affected if any additional delay is experienced in the delivery of the reversing reduction gear sets for the first three ships. Deferring the contract would help preclude the fourth ship's construction being delayed by the late delivery of the reversing reduction gears. If it is fully funded in fiscal year 1992 and the keel is laid as planned in August 1994, the gears may not be ready to be installed at the appropriate time. A Navy program official said that about 30 months would be needed to manufacture the reduction gear set after a contract is awarded. Additionally, the completion of a gear set for the fourth ship could be further delayed if the manufacturer continues to encounter technical problems with the first three sets or if builder's or acceptance trials of AOE-6 (now scheduled for the second half of calendar year 1992) identify any major problems with the design and construction of the gears.

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# Major Contributors to This Report

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